



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/636,158	08/07/2003	Roderick MacRae	18047	3609
26794 7590 03/05/2008 TYCO TECHNOLOGY RESOURCES 4550 NEW LINDEN HILL ROAD, SUITE 140 WILMINGTON, DE 19808-2952			EXAMINER FAULK, DEVONA E	
			ART UNIT 2615	PAPER NUMBER
			MAIL DATE 03/05/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/636,158

Applicant(s)

MACRAE, RODERICK

Examiner

Devona E. Faulk

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/7/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 12/6/2007, with respect to the drawing objection have been fully considered and are persuasive. The drawing objection has been withdrawn.
2. Applicant's arguments filed 12/6/2007, regarding prior art AAPA and Killion, have been fully considered but they are not persuasive.

The applicant essentially asserts that the examiner has not established a prima facie case of obviousness under 35 USC 103(a). Specifically, the applicant asserts that prior art AAPA and Killion fail to disclose a plurality of openings forming at least one tortuous path leading to at least one inlet; said at least one inlet allowing sound to reach a microphone element where sound is received. The examiner disagrees. The examiner noted in the previous rejection that AAPA fails to explicitly disclose a plurality of openings forming at least one tortuous path leading to at least one inlet and that Killion teaches of an inlet having a plurality of openings forming at least one tortuous path leading to one inlet (Figure 3; microphone cartridge 2-, front chamber of microphone 22, rear chamber of microphone 24, inlets 83 and 84; column 6, lines 43-50). An inlet is defined as an entrance. Therefore Killion's inlets reads on openings. Tortuous is defined as winding. Killion clearly teaches of a plurality of openings and a tortuous path.

In response to applicant's argument that Killion is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if

Art Unit: 2615

not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention.

See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, although Killion's invention is a hearing aid, the inlets 83 and 84 that provide openings to sound tubes 85 and 86 are pertinent to the concern of the applicant which is provide better directivity of sound to the microphone.

The examiner is maintaining the rejection set forth in the previous office action.

The applicant has amended claims 1 and 6 but prior art AAPA reads on the amended claim language.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (AAPA) (Figures 1(a) and 1(b), pages 1-2, paragraphs 002-0007; page 3, paragraph 0015) in view of Killion et al. (US 5,878,147).

Regarding **claim 1**, the applicant's admitted prior art discloses a portable radio including a microphone enclosure (Figure 1(b), page 3, paragraph 0015), said microphone enclosure comprising;

a casing for containing a plurality of portable radio components (AAPA; housing in Figure 1(a) and 1(b); paragraph 0015 teaches that the outer casing 102 contains the working components of the system) and a microphone (112, Figure 1(b)) for receiving sound and converting said sound into at least one electrical signal; and

at least one inlet (AAPA; 118, inlet ; page 3, paragraph 0015) for allowing sound to reach said microphone element where sound is received;

said at least one inlet having a one opening forming at least one tortuous path therein (AAPA; Figure 1(b) has a tortuous path; page 3, paragraph 0015 ; specifically AAPA teaches that the microphone inlet of Figure 1(b) has a change of direction and this prevents the object from entering the hole far enough to pierce the microphone gasket or microphone),

wherein said microphone is disposed between said at least one inlet and a wall of the casing such that sound can only impinge upon the microphone by traveling through said at least one inlet (AAPA; Figure 1(b)).

AAPA, paragraph 0015, teaches that one or more portions of the outer casing may form an opening or inlet.

AAPA fails to explicitly disclose a plurality of openings forming at least one tortuous path leading to at least one inlet. Killion teaches of an inlet having a plurality of openings forming at least one tortuous path leading to one inlet (Figure 3; microphone

Art Unit: 2615

cartridge 2-, front chamber of microphone 22, rear chamber of microphone 24, inlets 83 and 84; column 6, lines 43-50). It would have been obvious to modify the applicant's admitted prior art so that the inlet has a plurality of openings forming at least one tortuous path leading of one inlet as taught by Killion so that sound is better directed to the microphone.

Regarding **claim 2**, AAPA in view of Killion discloses wherein said at least one inlet comprises an upper and a lower opening and said upper and lower opening converges at said microphone (Figure 3).

Regarding **claim 3**, AAPA in view of Killion discloses wherein said casing comprises an upper, portion, a middle portion, and a lower portion which form said upper and lower openings. AAPA teaches of an upper and lower portion and it is obvious that the modification of AAPA with the plurality of openings forming an inlet creates a middle portion separate from said upper and lower portion. All elements of claim 3 are comprehended by the rejection of claim 2.

Regarding **claim 4**, AAPA as modified by Killion discloses wherein said microphone enclosure further contains a circuit board; integrated components on said circuit board for receiving signals from said microphone; and an antenna in communication with said integrated components for transmitting said electrical signal (AAPA; Figure 1(b)).

Regarding **claim 5**, AAPA as modified by Killion discloses a microphone gasket approximate a microphone (AAPA; Figure 1(b); page 2, paragraph 0005).

Regarding **claim 6**, AAPA, the applicant's admitted prior art, discloses a portable radio including a microphone enclosure (Figure 1(b), page 3, paragraph 0015), said microphone enclosure comprising;

a casing for containing a plurality of portable radio components (AAPA; housing in Figure 1(a) and 1(b); paragraph 0015 teaches that the outer casing 102 contains the working components of the system) and a microphone (112, Figure 1(b)) for receiving sound and converting said sound into at least one electrical signal;

an first opening proximate said microphone (applicant's admitted prior art; Figure 1(b))

wherein said microphone is disposed between said at least one inlet and a wall of the casing such that sound can only impinge upon the sound-receiving microphone element by traveling through said at least one inlet (AAPA; Figures 1(a) and 1(b) discloses a microphone 112 between an opening or inlet (108) and a casing (Figure 1)).

AAPA, paragraph 0015, teaches that one or more portions of the outer casing may form an opening or inlet. AAPA fails to explicitly disclose of an inlet having a plurality of openings.

AAPA art fails to disclose but Killion teaches of a second opening proximate said microphone and at least one inlet for allowing sound to impinge upon said microphone (microphone comprises 20,22,24, Figure 3). Killion teaches of an inlet having a plurality of openings (Figure 3).

AAPA as modified by Killion discloses that the inlet is formed by formed by a convergence of said first opening and said second opening for allowing sound to impinge upon a microphone element where sound is received (Figure 3).

It would have been obvious to modify the applicant's admitted prior art so that the inlet has a plurality of openings forming at least one tortuous path leading of one inlet as taught by Killion so that sound is better directed to the microphone.

Regarding **claim 7**, AAPA as modified by Killion discloses wherein said casing comprises an upper, portion, a middle portion, and a lower portion which form said upper and lower openings. AAPA teaches of an upper and lower portion and it is obvious that the modification of AAPA with the plurality of openings forming an inlet creates a middle portion separate from said upper and lower portion. All elements of claim 3 are comprehended by the rejection of claim 6.

Regarding **claim 8**, AAPA as modified by Killion discloses wherein said microphone enclosure further contains a circuit board; integrated components on said circuit board for receiving signals from said microphone; and an antenna in communication with said integrated components for transmitting said electrical signal (applicant's admitted prior art; Figure 1(b)).

Regarding **claim 9**, AAPA as modified by Killion discloses a microphone gasket approximate a microphone (applicant's admitted prior art; Figure 1(b); page 2, paragraph 0005).

Regarding **claim 10**, AAPA discloses a portable radio (Figures 1(a) and 1(b); page 3, paragraph 0015) comprising:

a circuit board (AAPA; Figure 1(b); implicit to a radio);

integrated components on said circuit board for transmitting and receiving signals to and from said portable radio (AAPA; Figure 1(b); implicit to a radio);

an antenna (AAPA; 1(a) and 1(b)) in communication with said integrated components for transmitting and receiving said signals (Figure 1)(antenna is obvious present, a radio has to have an antenna);

a microphone (AAPA; 112, Figure 1(b)) in communication with said integrated components on said circuit board for converting between sound and electrical signals;

a casing for containing a microphone, said integrated components, and said circuit board (AAPA; Figures 1(a) and 1(b); page 3, paragraph 0015);

a first opening in said casing proximate said microphone (Figure 1(b); AAPA);

wherein said microphone is disposed between said at least one inlet and a wall of the casing such that sound can only impinge upon the microphone by traveling through said at least one inlet (Figures 1(a) and 1(b) discloses a microphone 112 between an opening or inlet (108) and a casing (Figure 1(a); AAPA).

AAPA, paragraph 0015, teaches that one or more portions of the outer casing may form an opening or inlet. AAPA fails to explicitly disclose of an inlet having a plurality of openings.

AAPA art fails to disclose but Killion teaches of a second opening proximate said microphone and at least one inlet formed by a convergence of said first opening and a second opening for allowing sound to impinge upon said microphone element where

sound is received (See Killion as applied above to claim 1; Figure 3). Killion teaches of an inlet having a plurality of openings (Figure 3).

It would have been obvious to modify the applicant's admitted prior art so that the inlet has a plurality of openings forming at least one tortuous path leading of one inlet as taught by Killion so that sound is better directed to the microphone.

Regarding **claim 11**, AAPA as modified by Killion discloses wherein said casing comprises an upper, portion, a middle portion, and a lower portion which form said upper and lower openings. AAPA teaches of an upper and lower portion and it is obvious that the modification of AAPA with the plurality of openings forming an inlet creates a middle portion separate from said upper and lower portion. All elements of claim 3 are comprehended by the rejection of claim 10.

Regarding **claim 12**, AAPA as modified by Killion discloses a microphone gasket approximate a microphone (applicant's admitted prior art; Figure 1(b); page 2, paragraph 0005).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DEF

3.



VIVIAN CHIN

SUPERVISORY PATENT EXAMINER.